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# Price negotiation strategies adopted by shippers of international air and ocean transportation

## **Cover Page Footnote**

The authors wish to acknowledge the assistance of the Smeal College Center for Supply Chain Research in this study.

# **PRICE NEGOTIATION STRATEGIES ADOPTED BY SHIPPERS OF INTERNATIONAL AIR AND OCEAN TRANSPORTATION**

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## **ABSTRACT**

Government regulations in the international air and ocean shipping industry have undergone a wide range of new developments geared towards deregulation. These changes, coupled with the emergence of new technologies, have facilitated foreign trade operations leading to a substantial increase in international air and ocean cargo traffic in recent years.

This study investigates the regulation reforms that have affected pricing techniques in both industries and their implications on the negotiation strategies adopted by shippers and carriers. The survey results identified that each shipping firm negotiated on a variety of issues and employed more than one strategy for negotiating price.

## **INTRODUCTION**

Globalization and international transportation have gained prominence more than ever before in the later half of the twentieth century. The relaxation of U.S. government regulations through the deregulation of both the air and ocean industries contributed to an increase in international air and ocean cargo traffic. Coupled with emerging advance-

ments in technology in the 1990's, there has been a significant decrease in the complexities associated with the movement, storage, and tracking of international consignments, thereby facilitating foreign trade operations. Together, both of these factors have played a vital role in the facilitation of global trade. As a result, many firms now pursue global sourcing to utilize worldwide resources and worldwide technology more efficiently to

create a competitive advantage for themselves in the marketplace (Thomchick 2000).

This study provides a turn-of-the-century view of the regulations that have governed rate-making so far in both the international air and ocean shipping industries. The changes that occurred in the rate making process in the post-deregulated era in both industries are identified. In the case of the air transport industry, the most recent development in regulation was that of the 'open skies' bilateral air service agreements that began in the United States in 1992 (Doganis 2001). In the case of the ocean transport industry, the Ocean Shipping Reform Act (OSRA) of 1998 was the most significant development, completely altering the way shippers and carriers conducted business with each other.

These changes laid the foundation for this study. Although much research has been conducted on the impact of deregulation reforms on the air freight and ocean cargo industry, no study to date has performed an analysis of the price negotiation strategies employed by international shippers in the post-deregulated era. Thus, the objective of this study is to perform an analysis of price negotiation strategies adopted by shippers of international air and ocean transportation in the post-deregulated era. From a more micro view, the research examines the price negotiation strategies adopted by a selected sample of shippers of international air and ocean cargo. The study provides valuable information on the negotiation strategies and carrier selection practices employed by a selected sample of international shippers of diverse goods. All international shippers should benefit from this knowledge since these strategies represent current industry practices.

The research began with a review of the literature on the deregulation reforms that impacted the different approaches adopted in rate making in the air freight and ocean cargo industries. A survey of international shipping firms was then conducted by sending out a structured questionnaire via e-mail. The survey provided information on the factors that influence the carrier selection process and the price negotiation strategies adopted by the respondents. Conclusions were drawn regarding the negotiation strategies and carrier selection practices adopted by the sample.

## LITERATURE REVIEW

### International Air Transport Regulation and Cargo Pricing

Until the early 1930's, air was employed primarily for the transport of passengers. The usage of air for transporting cargo began in the early 1930's when airlines started transporting airmail (Williams, 1994). National Air Transport, organized in 1926, was the pioneer that employed airlines for the transport of all property other than mail and passengers' baggage (Williams 1994). However, after the establishment of the Civil Aeronautics Board (CAB), through the passage of the Civil Aeronautics Act in 1938, many carriers began to show interest in the air freight business (Williams 1994; Taneja 1980).

United Airlines initiated all-cargo service by offering the first domestic service between New York and Chicago in December 1940. American, United, and TWA followed suit by offering regular transcontinental cargo service from 1945 onwards (Williams 1994). At the same time in 1944, an agreement was reached in an intergovernmental conference in Chicago establishing a global association

for overseeing the rate making process. In April 1945, the International Air Transport Association (IATA) was formed for the purpose of rate making.

The final structure of the IATA resulted from the signing of the Air Services agreement in Bermuda in 1946 (Williams 1994). IATA's rate making process included the following steps. The rate fixing machinery initially arrived at a comprehensive pattern of specified fares on the basis of certain basic currencies, including the U.S. Dollar and the Pound Sterling. The specified fares were approved by the members of the IATA. The fares of individual carriers were based on their specific needs and calculated after considering various factors that influenced the tariff rates both directly and indirectly (Williams 1994). These factors included distance, cost of service, price elasticity of demand, specific needs of carriers serving particular trade lanes, government needs, anticipated demand patterns, availability and nature of competition in specific routes (Williams 1994).

The CAB approved the IATA traffic conference machinery on February 19, 1946, for a period of one year (Doganis 2001; Williams 1994) and later made it permanent in 1955 (Doganis 2001). Thus, IATA traffic conferences began to provide a multilateral link in the bilateral system to coordinate rate proposals between carriers, prior to government review, until deregulation occurred in 1977-78. During the period from 1946 to 1978, IATA had been under constant criticism for being a cartel with monopoly power to set rates and fares for international air transport (Taneja 1979). As a result, the CAB issued a show cause order proposing to disapprove IATA traffic conference provisions and related resolutions in June 1978 (Taneja 1979).

In 1977, the Carter administration initiated a chain of events that transformed the international air transport industry from a closed and protected industry to an open and competitive one (Doganis 2001). Although the Air Passenger Deregulation Act was passed in 1978, the air cargo industry was deregulated separately in the second half of 1977.

On August 21, 1978, President Jimmy Carter issued a comprehensive statement on "international air transport negotiations," setting forth the U.S. policy for the conduct of international air transport negotiations (Doganis 2001). This agreement effectively deregulated air cargo services between countries by introducing a double disapproval regime for fares, which suggested that the filed tariffs became operative unless both governments disapproved it. In the pre-deregulated era, double approval of fares by both governments was required.

By early 1990's, it became clear to many countries that the "open market" bilaterals had not gone far enough and needed further liberalization (Doganis 2001). An "open skies" agreement was inaugurated to enable a new phase of international deregulation (Doganis 2001). The key element of this bilateral, with regard to cargo pricing policy, was that there would be no tariff controls except in instances where the tariff was leaning more towards one of the two extremes. In such instances, government intervention was advocated to protect consumers from unreasonably high prices or to protect airlines from artificially low fares due to government subsidies (Doganis 2001). With the above-mentioned objective and others favoring true liberalization, the Clinton administration, in April 1995, issued the first formal statement of international air transportation policy in 17 years.

Following this statement, the United States prepared for a phased removal of restrictions and liberalization of the air service market. As a result, on tariffs, double disapproval or the country of origin rule was replaced by the decision that government should not interfere in tariff setting, except in extreme instances to prevent discriminatory practices. However, published international fares still continue to be established through the rate setting machinery of IATA.

Air freight services are now sold and marketed in a variety of ways by line haul operators, integrators, and freight forwarders (Williams 1994). The line haul operators sell only a small proportion of their cargo space directly to customers. The greater proportion of their cargo space is sold through freight forwarders and agents who negotiate a fixed amount of space with the airlines. The freight forwarders and agents then sell the freight space to customers. The line haul carriers publish their cargo rates at IATA tariff conferences. On the other hand, integrated operators offer a variety of products and services, depending upon the weight of the consignment and delivery speed required by shippers.

Air cargo rates, irrespective of the operator (line-haul, integrated operators, or freight forwarders) providing the service, are determined on the basis of a number of characteristics and circumstances, including the nature of the commodity, cargo volume, density, weight, routing season, regularity of shipments, nature of transport (imports or exports), priority and speed of delivery (Williams 1994; Frankel 1982). Discounts on cargo rates are widely applied and are based on the volume of cargo transported and the regularity of the customer. However, air cargo rates tend to vary a great deal based upon the nature of the commodity and its

destination (Williams 1994). This rate variation can be attributed to three main factors that differentiate the airline industry from other industries. These factors include total dependence of an airline's productivity on its fleet, the large percentage of operating costs not in control of the airline, and the inability of an airline's output (cargo space) to be inventoried (Williams 1994).

### **International Ocean Transport Regulation and Cargo Pricing**

U.S. international ocean shipping is carried out in U.S. owned flag vessels, U.S. owned foreign flag vessels, and in foreign owned, foreign flag vessels. U.S. flag shipping is usually conducted in ships built and owned by U.S. citizens and is comprised of tramp, liner, proprietary, and independent shipping (Federal Maritime Commission 2000).

Tramp shipping involves transporting mostly one general, dry, or liquid bulk commodity per voyage. Liner shipping, on the other hand, involves carrying a wide range of cargo from a number of shippers per voyage. Proprietary shipping is usually employed in the transport of a particular commodity and is operated on behalf of a single economic interest (Federal Maritime Commission 2000). Independent shipping generally consists of dry or liquid bulk carriers chartered by independent owners for a specific voyage or time period on behalf of a particular firm (Thomchick 2000; Federal Maritime Commission 2000).

The ocean shipping industry has undergone many changes from the early 1900's until today. In the early 1910's in the United States, the ocean shipping industry was largely self-regulated through organizations of carriers in each trade route called conferences that dominated liner trading

(Thomchick 2000; Federal Maritime Commission 2000). These conferences set rates and influenced indirectly the number of sailings in a particular route.

Congress passed the Shipping Act of 1916 to define the provisions for the operation of ocean shipping conferences (Thomchick 2000). This act extended immunity to those agreements that were filed with and approved by an independent regulatory agency that eventually became the Federal Maritime Commission (FMC) by executive order in 1961. However, the practices of carriers that were considered to be anti-competitive were curbed.

In the first half of the 1900's, carriers forced shippers to be loyal for a certain period of time in order to get a reduced rate on shipments called deferred rebates. The Shipping Act outlawed deferred rebates to shippers (Federal Maritime Commission 2000). Carriers were also prohibited from making unfair contracts with shippers based on the volume of cargo offered. Every carrier and conference of carriers in international commerce were required to file a schedule of rates and charges with the FMC, which ruled that the rates actually charged must be in compliance with the schedule filed (Brooks 2000). Dual rate contracts, contracts in which a shipper gets a lower rate if he/she promises all or a fixed percentage of cargo to a carrier or conference of carriers, were permitted (Thomchick 2000; Federal Maritime Commission 2000). However, they were subject to the approval of the FMC.

In 1978, Congress passed the Ocean Shipping Act as an amendment to the Shipping Act of 1916 (Federal Maritime Commission 2000). This act prohibited carriers from maintaining rates and tariffs

below the level filed with the FMC. The Shipping Act of 1916, though amended numerous times, continued to be the major U.S. maritime legislation governing ocean shipping conference operations until 1984. The Shipping Act of 1984 retained anti-trust immunity for ocean conferences, but still required carriers to file rates and charges with the FMC (Thomchick 2000). Carriers were finally allowed to enter into independent agreements with shippers outside conferences, but were still required to obtain approval from the conferences for such an agreement. This act prohibited the adoption of dual rates.

The next noteworthy legislation in the area was the Ocean Shipping Reform Act of 1995 that attempted to eliminate tariff and contract filing with the FMC, as well as government tariff enforcement and regulation (Thomchick 2000; Lewis 2000). This act was replaced by the Ocean Shipping Reform Act (OSRA) of 1998.

In May 1999, OSRA took effect (Thomchick 2000; Lewis 2000), representing a logical continuation of the trend toward deregulation established by the Shipping Act of 1984 (Kendall 1986). OSRA introduced a new era of one-to-one confidential service contracts with creative provisions aimed to weaken the dominance of conferences. Contracts must still be filed with the FMC, but the terms of the contract are not revealed to the public as before (Brooks 2000). Shippers are no longer able to use publicly filed terms of a competitor for negotiating a better deal with carriers. OSRA does not require carriers to file tariffs with the FMC, but requires carriers to publish tariff rates. The discussion of the above laws and regulations pertain to the liner sector of the ocean shipping industry.

Ocean cargo rates are now determined on the basis of a number of factors, including the cost of owning and operating the vessel, cost of providing the service, value of the service to the owner of goods, an appropriate profit margin, ability of the cargo to sustain its transport expenditure, degree of competition, and prevailing economic conditions (Thomchick 2000; Button and Stough 2000). Although these factors provide a general basis for arriving at a rate for transporting cargo, different approaches to pricing are evident in the tramp and liner shipping sectors.

Tramp shipping transports a single commodity like coal, grain, ore, or phosphate rock per voyage. Since tramp shipping deals mostly with one shipper and one commodity per voyage, all the costs of operating the ship, cargo handling, port fees and harbor dues are added to the capital charges of vessel ownership, overheads and administration expenses (Thomchick 2000; Button and Stough 2000). The total of these costs is calculated in proportion to the number of tons to be hauled. Thus, cargo rates in tramp shipping are mainly dictated by demand/supply conditions existing in the market (Thomchick 2000; Button and Stough 2000).

The liner sector, on the other hand, carries a wide range of cargo from a number of shippers per voyage. Therefore, rate structures in the liner sector are more complex than in the tramp sector. Liner rates are usually based on the stowage factor and the amount of vessel space occupied by the cargo. If a cargo has a stowage factor less than 40, then it does not utilize the space in the vessel efficiently (Thomchick 2000). The liner operator has the right to charge the shipper either on the basis of weight or measure, whichever yields the highest revenue. Also, since liner shipping involves carrying a wide

variety of cargo, rates can be quoted per linear foot, per head, per thousand feet, per barrel, and so on (Thomchick 2000; Button and Stough 2000).

Surcharges are often applied to liner cargo rates on certain occasions to help cover short-term economic conditions, including the adverse effects of fuel price increases, insurance rate increases, currency fluctuations, and trade imbalances (Button and Stough 2000). These surcharges are applied regardless of the method (tariffs or service contracts) employed for determining the price for transporting the cargo. When tariff pricing is adopted, shippers do not have the advantage of negotiating a favorable price with the carriers, since published tariff rates must not be changed. If service contracts are employed, shippers reserve the right to negotiate a favorable rate with the carrier (Thomchick 2000).

## METHODOLOGY

### Samples

The design of the sampling methodology involved surveying firms that ship goods internationally via either air or ocean transport. The sampling technique employed for conducting this research was convenience sampling. The sample was chosen from a group of firms with which the faculty in the Smeal College of Business Administration has business relationships. A sample of 12 firms that are international shippers of goods was chosen.

### Survey Instrument

The survey instrument was a structured questionnaire consisting of 17 questions. Most of the survey questions were left open-ended in an attempt to avoid restricting information



from the respondents. The main focus of each survey was to identify the price negotiation strategies adopted by the firm while negotiating with its air or ocean carriers.

## **Survey Technique**

The survey technique involved initially contacting all the firms that comprised the sample via phone to briefly describe the purpose of the survey. This was then followed by sending out questionnaires via e-mail. From the twelve firms in the sample, only seven firms responded to the email survey. No follow-up contacts were made. Though only seven firms responded to the survey, the authors believe the quality of the data and the integrity of the questionnaire are high. By using this approach, it was possible to identify the most appropriate individuals in the firms who could provide the requested information.

## **Demographics of the Sample**

All the respondents were manufacturing firms that are international shippers of goods using either air, ocean, or both for transporting goods. All the firms in the sample spend an average of at least \$7 million on transportation per year. The goods transported by the respondents included medical, consumer, electronic, paper, glass, chemical, and computer products.

## **STUDY RESULTS**

### **Strategies Adopted by Shippers in International Air Transport Negotiations**

The process of international air cargo distribution has undergone noteworthy changes in the past couple of decades due to the deregulation of the air industry and the

ubiquitous emphasis placed on lean production methods and supply chain management techniques. Transporting cargo by air has gained importance in this changing environment since air offers a faster and more reliable mode of transport than that offered by ocean.

The study data indicate that air was used for transporting finished goods that had high intrinsic value per ton/kilo/pound. Air was also used for transporting goods that were originally shipped by ocean, when shipments were to be expedited. Many firms indicated that, for cargo that could move either by air or ocean, the mode was selected based on the value of the product, type of product, service level, critical nature of the freight, transit time, time available to reach the marketplace, and cost of the material in the supply chain. In certain firms, the mode of transport was determined by affiliates in foreign countries. The decision process in those firms was influenced by product availability, weight/volume of the product determining the freight cost, transit time, and expected time of arrival of the product at the destination.

The carrier for transporting the product was selected from a variety of sources across firms. These sources include trade journals, solicitations, networking through the international trade industry, on-line auction process, recommendations from other firms, and carriers already in use. The air cargo carriers identified through various sources were then short listed based on their ability to satisfy certain service requirements. The strategies adopted for selecting the carriers varied from one firm to another with the process being influenced by numerous factors. Some firms identified their service requirements and weighed these requirements against the cargo carrying capacity of the

carriers. All the carriers with adequate cargo carrying capacity to meet the shipping requirements of the firm were short listed. These short listed carriers were then weighed against various secondary factors and the carrier that best met all of the service requirements of the shipper was finally selected.

Other firms identified and short listed those carriers that were willing to enter into long term partnerships or global alliances. These carriers were then weighed against several other secondary factors and the carrier with the ability to provide the best service in terms of all the factors required by the shipper was selected. A limited number of respondents placed primary emphasis on the experience of the carrier in the industry and the overall service provided.

The secondary factors that influenced the carrier selection process include frequency of service, price, transit time, infrastructure, financial stability, size, delivery capabilities, ability to consolidate volumes over various trade lanes, and quality of the overall service provided. Service provided by the carrier was considered the most important factor in the carrier selection process by most respondents. Many firms are now focusing more on customer service and inventory management techniques, and this may be the cause for the additional emphasis placed on service by the shipping firms. Price of the service provided was considered the second most important factor by some firms while transit time was regarded as the next important factor after service by most firms.

In addition to the above-mentioned factors, technology played an important role in the carrier selection process in a number of firms. The carriers are now selected based upon

their ability to provide on-line bookings, on-line cargo tracking, and the ability to create shipper issued commercial invoices via Electronic Data Interchange.

Thus, each shipping firm has a primary criterion for short listing the air cargo carriers that operated in the market. All the carriers that satisfied the primary criterion were then evaluated on their ability to satisfy other requirements of the firm. The carrier that satisfied both the primary and secondary criteria to the maximum possible extent was selected. The carrier selection process in each firm was very detailed and based upon the performance of carriers on a variety of aspects.

Following the carrier selection process, the shippers negotiated with the selected carrier on a number of issues. These negotiations were conducted on a centralized basis in all the firms that responded to the survey. Although negotiations were conducted on a centralized basis, many firms regionalized the negotiations based on the diverse requirements of subsidiaries in each region.

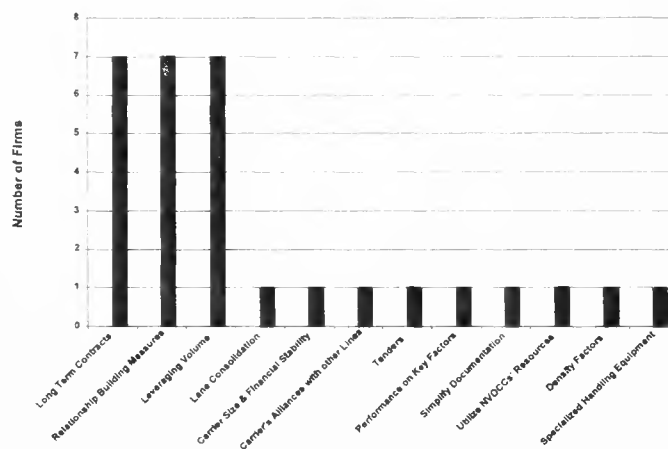
The negotiations were handled by different departments in each firm. In certain firms, the negotiations were handled by a common department called either, "World Wide Distribution Procurement," "Corporate Logistics," or "International Transportation Department." Other firms had separate departments handling negotiations for each of the modes. Some of the firms that responded had different departments that conducted negotiations for inbound and outbound shipments. The departments that handled inbound negotiations in some firms are either called "Global Sourcing" or "Inbound Team," and the departments that handled outbound negotiations are either called "Logistics" or "Customer Focus Group."

Although price was considered to be the only factor in the negotiations between shippers and carriers, negotiations were conducted on several other factors as well. While, for certain shippers, service was the most important negotiating factor, for others, a variety of factors were on equal par when negotiations were conducted. However, all the firms negotiated on a variety of issues with their carriers, including overall service provided, frequency of service, price, transit times, liability, reporting capabilities, accessorial fees and surcharges, trade lanes, and length of contract. In some firms, the length of the contract with the carrier was determined based upon a number of factors, such as the number of trade lanes served, terms of renegotiation, and value added services provided. A limited number of respondents also placed emphasis on guaranteed cargo space, type of equipment used, equipment availability, cargo tracking capabilities, and performance metrics during the negotiating process. The negotiations were also conducted on the ability of the carrier to

establish electronic links with freight forwarders to obtain cargo status, to ensure a proactive approach in identifying cargo delays, to provide automated pre-alert information to the customer, to identify opportunities to allow for pre-clearance of cargo, and to provide multiple service options for each lane.

The shipping firms adopted different strategies to arrive at an affordable price while negotiating with the carriers, as depicted in Figure 1. Every firm that responded to the survey employed more than one negotiation strategy. These price negotiation strategies included entering into long term agreements, concentrating on relationship building measures, leveraging volume to reduce price, floating bids to get a competitive price from the existing base of carriers, consolidation of various lanes, density factors, size of the carrier, financial stability, and alliances the carriers had with other lines.

**FIGURE 1**  
**PRICE NEGOTIATION STRATEGIES ADOPTED BY SHIPPERS**



Some shipping firms also opted to employ overseas resources of the carriers to satisfy the needs and requirements of their customers. This, in turn, provided the carrier with potential opportunities in foreign countries, which resulted in a reduction in the service price for the shipper. During the negotiation process, certain firms identified opportunities to simplify the documentation process in an attempt to reduce handling fees. Thus, several potential opportunities to reduce the price without hurting overall service are explored during the negotiation process. Shippers and carriers also use the negotiating table to explore opportunities that would benefit both the parties from the relationship.

### **Strategies Adopted by Shippers in International Ocean Transport Negotiations**

The ocean shipping industry has undergone many changes as well due to maritime deregulation culminating in OSRA, which took effect in May 1999. OSRA has replaced conferences that once dominated the liner shipping industry with confidential contracts between shippers and carriers. This change has enabled carriers to collaborate on a variety of issues while maintaining their freedom and flexibility to conduct business with shippers on a one-to-one basis.

A major portion of the physical distribution of international freight is still carried by ocean with air being used only for the transport of high value, low-bulk items and when shipments need to be expedited. Although all of the respondents in the study used both air and ocean for transporting goods globally, around 75 to 95 percent of the overall volume of cargo they transported was carried by the ocean mode.

There was no difference whatsoever in the strategies adopted by the respondents in the carrier selection process between the two different modes. As in the air mode of transport, the respondents required the ocean carrier also to possess technological capabilities to provide on-line ocean bills of lading and on-line cargo tracking, in addition to other general abilities required. Technology is fast emerging as a vital factor in the carrier selection process, regardless of the mode employed for transporting the products.

Shippers conducted negotiations with the selected carrier on a variety of aspects, including price, overall service, frequency of service, length of contract, and trade lanes. The strategies adopted by shipping firms while negotiating price with the carriers was similar to those adopted while negotiating price with air cargo carriers. Thus, all the firms that responded to the survey adopted the same approach while selecting their carriers, regardless of the mode they operated in, and employed similar strategies while negotiating with them on various aspects.

These negotiations were conducted on a centralized basis, and the department that handled these negotiations varied from one firm to another. OSRA had completely altered the manner in which shipping firms negotiated with their carriers. Shippers are now placing additional emphasis on overall service provided, rather than on price alone, as was done in the period prior to OSRA.

All the respondents that ship goods by ocean after the inception of OSRA move them under service contracts. Many shipping firms share the opinion that the contracts to/from the U.S. after OSRA are more similar to contracts outside the U.S. There is also mention about

the increase in the number of contracts with multiple trade lanes after the passage of OSRA.

The negotiation process after OSRA became effective is purely confidential, thereby making the process highly competitive. Shippers are now entering into long term agreements with carriers to obtain leverage on the price based on the volume of cargo transported. Some of the respondents have reduced their carrier base by approximately 50 percent after the passage of OSRA, and are focusing their efforts in building relationships with a limited base of carriers. Conferences and conference contracts have become less meaningful in the post-OSRA environment, paving the way for individual agreements with strong emphasis on relationship building.

### **MANAGERIAL IMPLICATIONS OF THE RESEARCH FINDINGS**

There is no doubt that both the air and ocean industry have witnessed significant changes after the 'open skies' bilateral and OSRA, respectively, became effective. These changes have in turn brought about changes in the way shippers and carriers in each of the modes conduct business with each other. This research has attempted to identify the influence of these and prior regulatory changes in the operations of both the industries, especially in pricing, and the strategies adopted by shippers and carriers in the wake of these recent developments.

The "open skies" bilateral completely eliminated tariff controls in the air industry and attempted to increase the variety of price and service options for shippers. Government intervention in pricing was virtually eliminated, paving the way for free pricing. On the other hand, in the ocean shipping industry, OSRA brought about a new approach of one-to-one

confidential contracts between shippers and carriers, thereby attempting to weaken the dominance of conferences in rate fixing. These deregulation reforms have ensured a significant transformation in the operations of both the industries which are outlined below.

After the "open skies" bilateral came into effect in the air industry, firms are now shipping most of their air cargo under contracts. In a similar fashion, the once traditional liner shipping industry has now moved closer to embracing confidential agreements with shippers since the inception of OSRA. Many of the conferences have dissolved in the wake of OSRA. Now, more than 80 percent (Brooks 2000) of ocean cargo moves under service contracts with tariffs being employed only on a very limited basis for small or one time shipments.

Shippers in both modes now have the freedom to select carriers based upon their ability to provide the required service. New developments in technology have forced many shippers to conduct their operations in an e-business environment in an attempt to adapt to the changes in the marketplace. This has resulted in the evolution of an interesting trend in the carrier selection process that requires carriers to use electronic purchasing tools such as Request-For-Information (RFI) and Request-For-Pricing (RFP), to make them eligible for selection. In addition, shippers are now selecting carriers based upon their ability to provide on-line bookings, on-line tracking of shipments, and on-line ocean bills of lading. Although each business has different needs, priorities, and buying strategies, shippers that employ these cutting edge technological tools select carriers that have the ability to conduct business electronically.

At present, negotiations are conducted on a variety of issues including service, price, and

trade lanes. In certain firms, negotiations are conducted on a centralized basis while in others they are conducted on a decentralized basis. Each firm employs a different strategy for getting an affordable price from carriers. Many large multinational corporations leverage their collective tonnage to receive the lowest possible freight rates and the best service in terms of transit times and cargo space. An emerging trend now is that of measuring the performance of carriers on certain Key Performance Indicators (KPI's), such as cargo tracking capabilities, transit time, and frequency of service that were agreed during the negotiation process. These KPI's are used to evaluate the performance of a carrier and to either award or terminate business.

The negotiation strategies adopted by firms continue to evolve based upon the service requirements of the shipper and the ability of the carrier to meet those needs. In these circumstances, a further liberalization in both the air and ocean industry would mean more changes in the operation of both the industries.

The airline industry at present is moving toward "clear skies" bilaterals, aimed at removing the existing constraints on airline ownership by foreign nationals, and certain other provisions that pertain mostly to air passenger transport. Within the first decade of this millennium, the ownership and investment rules are most likely going to be liberalized (Thomchick 2000). It would be valuable to identify the changes that these provisions of "clear skies" bilaterals will have on the way operations and negotiations are conducted in the air cargo industry.

The ocean shipping industry has witnessed big changes since OSRA became effective. Some conferences have disbanded, paving the way for individual discussion agreements

between shipper and carrier. In the future, it is expected that the remaining conferences will also disappear due to the fact that they cannot satisfy the demands of multinational shippers for global service contracts encompassing multiple trade lanes. In addition, more than 80 percent (Brooks 2000) of ocean cargo moves under service contracts and tariffs are adopted only on a very limited basis. This has also contributed to the decline of conferences. In future, OSRA may eventually eliminate tariffs, giving prominence only to confidential one-to-one contracts between shippers and carriers. In these circumstances, it would be highly intriguing to find out the changes in strategies adopted by shippers and carriers in ocean transport while negotiating with each other.

## FUTURE RESEARCH

A small sample was selected based on convenience, keeping the time frame short for the completion of the study. A more detailed study with a larger sample, stratified on the basis of the amount spent for international transportation of goods per year, might have yielded more information. This might also have provided information on any differences, if any, in the carrier selection process and price negotiation strategies employed by small, medium, and large international shipping firms.

The e-mail survey method was chosen for its efficiency and convenience in contacting respondents within a short time frame. However, this method might have limited the volume and detail of information provided by the respondents. Personal interviews may have resulted in more detailed replies.

Future research on this topic could use a stratified sample based upon the amount

spent for international shipping of goods per year and employ personal interviews. This

would provide more information that may not have been revealed by this study.

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